The Bulletins are published weekly throughout the school year (thirty issues) to aid teachers and students in keeping abreast of geography behind current news events.

GEOGRAPHIC SCHOOL BULLETINS

of

The National Geographic Society

WASHINGTON 6, D. C.

The National Geographic Society is a non-profit educational and scientific Society established for the increase of geographic knowledge and its popular diffusion.

VOLUME XXX October 29, 1951 NUMBER 5

1. Change and Struggle Visit Malaya's Capital
2. Rome's Colosseum Stages a "Premiere"
3. Continent's No. 2 Waterfall Is Seldom Seen
4. Autumn Color Blazes from Canada to the Ozarks
5. Postage Stamps Mark Pitcairn's Progress

ROBERT F. SISSON

AUTUMN LEAVES GILD A PATHWAY THROUGH THE WOODS ALONG THE APPALACHIAN TRAIL

In this New York section of the park through which the Trail runs, young hikers study wildlife in natural surroundings and special exhibits. The area is noted for vivid color (Bulletin No. 4).

Bulletin No. 1, October 29, 1951

Change and Struggle Visit Malaya's Capital

FOUR WORDS—tin and rubber, growth and trouble—sum up the story of Kuala Lumpur, capital and city of destiny in the young, British-dependent Federation of Malaya. But the tale of this city, like that of other storm centers in today's turbulent and changing East, is never done. A new chapter was added earlier this month, when Sir Henry Gurney, British High Commissioner for Malaya, was killed in a communist ambush 60 miles north.

Last spring a new tin deposit was discovered in the heart of Kuala Lumpur. The find promises to stimulate Malaya's already flourishing economy, and to provide more funds for the government's three-year-old struggle against communist-backed guerrilla insurgents.

Up from the Jungle

The development, however, is hardly an unmixed blessing to Kuala Lumpur. For the opening of an active mine at the deposit site threatens the homes of some 5,000 people in a crowded city already grappling with a housing shortage and problems of crumbling buildings.

Kuala Lumpur is near the coastal Malay-Peninsula uplands 200 miles northwest of Singapore. It is a metropolis which was literally built by tin and rubber. Less than a century ago it was a mere handful of thatched huts in the jungle, owing its existence to the discovery, around 1850, of near-by tin fields. These were worked by a little band of Chinese miners then engaged chiefly in supplying India's metal craftsmen.

In the early days the only transport to and from Kuala Lumpur was by boats poled laboriously along the rivers. The pioneering Chinese—who were to hold their lead in the Malayan tin industry long after the British extended their influence throughout the peninsula—panned and dug for the accessible ore by hand labor and primitive implements.

It was a wild time and a wild country, with bitter fighting often breaking out between rival Chinese factions. Heads were displayed as trophies in Kuala Lumpur's open market place.

World's Rubber Capital

Gradually and steadily the settlement grew, despite the violence and handicaps. About the turn of the century, European capital became interested in Malaya's tin industry. Dredges and other modern mining machinery were introduced. First short and then longer railroads were built, extending finally as far as Singapore. Highways came to feed the rails and to serve a ring of satellite villages appearing around Kuala Lumpur.

Meanwhile, a new element had been added with the planting of big rubber estates (illustration, next page) around Kuala Lumpur and the advent of Malaya's first great rubber boom in 1910. For a time, this city —already the capital of Selangor and of an early limited federation of Malay states—was known as the "rubber capital of the world."

ENTERED AS SECOND CLASS MATTER APRIL 27, 1943, POST OFFICE, WASHINGTON, D. C., UNDER ACT OF MARCH 3, 1879.
COPYRIGHT, 1951, BY THE NATIONAL GEOGRAPHIC SOCIETY. INTERNATIONAL COPYRIGHT SECURED. ALL RIGHTS RESERVED.
SUBSCRIPTION FORTY CENTS FOR THIRTY WEEKLY ISSUES DURING THE SCHOOL YEAR. IN CANADA, SIXTY CENTS.

EDMUND ZACHER

NEARLY UNPROTECTED, BOUNTY BAY PROVIDES ONE OF THE TWO LANDING PLACES ON THE SOUTH PACIFIC'S PITCAIRN ISLAND (Bulletin No. 5)

Bulletin No. 2, October 29, 1951

Rome's Colosseum Stages a "Premiere"

AFTER nearly 2,000 years of disuse, Rome's Colosseum has resumed its ancient role of show place. Early this month a concert was presented in the arena where once gladiators struggled to the death, wild animals fought each other, and men and beasts joined in deadly combat for the entertainment of the Roman populace.

About 5,000 modern Romans and visiting tourists applauded the music of Giuseppe Verdi in a program commemorating the 50th anniversary of the famous Italian composer's death.

Gladiatorial Combats Developed from Funeral Rites

The great amphitheater, shown in innumerable pictures, is probably the most familiar ruin in the world. The Colosseum was built to stage three types of spectacles. In the case of the martyred Christians, ferocious beasts—chiefly lions and tigers—were turned in among defenseless men, women, and children while hardened spectators looked on.

Gladiatorial combats had developed from primitive Roman customs. Upon the death of a noted man, all his slaves were slaughtered as human sacrifices. A step forward—though a feeble one—was the decision to have the slaves fight so that only half would be killed. The combats were staged in the forum and viewed from temporary wooden seats.

As the taste for these spectacles grew, professional gladiators came into being. Contests were held in the circuses—long, straight-sided courses, lined with seats, where chariot races were held. Roman armies brought wild beasts home from Eastern campaigns and these fought in the circuses. But the enclosures were unsuitable, so the amphitheater, a closed circuit of seats around a relatively small level space, was invented. Ranged on tiers of seats, a huge crowd could view the bloody combats.

The first permanent amphitheater was built in 29 B.C. In 72 A.D. Vespasian began the greatest, now known as the Colosseum. It is believed to have been named, though long after, for the Golden Colossus, a huge statue of Nero adorning the palace which once stood on the site.

War Prisoners from Jerusalem Labored on Colosseum

The Colosseum was built out of masonry from far below the ground. Few structures, until the American skyscraper, have contained as many cubic feet of stone and brick and concrete as this elliptical grandstand.

Vespasian's son Titus carried on the work. When he sacked Jerusalem, Titus brought 12,000 prisoners to work on the building. The opening in 80 A.D. lasted 100 days. Slaughter of thousands of animals and hundreds of men made it a typical "Roman holiday."

At the time of its "premiere" the edifice had only three stories, but even then it was "colossal." It was first called the Flavian Amphitheater, after the family of its builders. A fourth story was added in the third century A.D.

Ground-level arches were entrances. Other great arches supported the seating area and formed corridors through which the crowd passed up stairways to their seats. Under the arena were mechanisms for raising

Smart shops, clubs, and hotels, with city parks, golf and polo grounds, began turning Kuala Lumpur into a colonial garden spot. The population jumped to 80,000 in 1920; and to nearly 140,000 by the opening of World War II. It now exceeds 176,000.

In the early months of the Pacific struggle, the city, then the gateway to Singapore, was overrun by the Japanese on their jungle march down the peninsula. It was not until September, 1945, that the Allies reoccupied this strategic center of tin and rubber production and the city was returned, with the rest of Malaya, to British control.

The troubled postwar period finds Kuala Lumpur carrying on as the capital of a new and expanded administrative setup in this part of the world—the Federation of Malaya, which includes all the Malay states and British possessions except Singapore. As such, it is the center of the government's fight against the communist terrorists of the country, and a focal point of the "state of emergency" which was proclaimed in 1948 and is still in force.

NOTE: Malaya is shown on the National Geographic Society's map of Asia and Adjacent Areas. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For further information, see "The British Commonwealth of Nations," in the *National Geographic Magazine* for April, 1943. *(Back issues of the Magazine may be obtained from the Society's headquarters at 60¢ a copy, 1946 to date; $1.00 from 1930 through 1945; and $2.00 from 1912 through 1929. Earlier issues, when available, at varied prices.)*

© BURTON HOLMES FROM GALLOWAY

MANY OF MALAYA'S RUBBER PLANTATION WORKERS ARE TAMILS, A PEOPLE FROM INDIA

Here the immigrants gather in one of their villages. The Federation of Malaya is a melting pot. Its native Malays now are outnumbered by Chinese. Indians form a third large group.

Bulletin No. 3, October 29, 1951

Continent's No. 2 Waterfall Is Seldom Seen

IN a single massive spout, North America's second-largest waterfall plunges from the lip of the Labrador Plateau. Only Niagara surpasses it in volume. Yet few people have ever seen it. Its name: Grand Falls of the Hamilton River.

Rolling toward the sea, the Hamilton River, fed by Labrador's maze of lakes, hurtles downgrade 1,038 feet in 16 miles—one of the most tumultuous descents of any major river on earth. In rapids just above Grand Falls the river drops 219 feet. It then drops 245 feet over Grand Falls and turns sharp left into Bowdoin Canyon. While boiling through this 400-foot-deep gorge it loses another 574 feet in elevation.

National Geographic Explores Region

Ten miles away as the crow flies (but about 200 by canoe) are the quadruple Unknown Falls (illustration, next page) along Unknown River, a tributary of the Hamilton. So few have been visitors that on many maps Unknown River's course is only a dotted line. Not until 1929 did a single party locate both the Lower Falls and Upper Falls, each split in two by mid-channel islands.

In the summer of 1950 the National Geographic Society sent a party to the region. In addition to photographing Grand Falls from the ground, the group was the first in 20 years, so far as records show, to reach all four falls of the Unknown River.

The Unknown Falls drop 90 to 100 feet. Along with the larger Grand Falls, they constitute one of the world's greatest clusters of major waterfalls. Yet their inaccessibility prevents them from rivaling Niagara or Yosemite as travel attractions.

At the present time the only way to reach Labrador's watery wonders is by canoe in summer and by dogsled and snowshoe in winter. Another possibility is to fly in, landing on near-by lakes and walking the final miles to the cataracts. However, walking over the jumbled boulders, hidden bogs, and slippery moss of Labrador's summertime terrain is such an ordeal that most north-woodsmen rule out extensive hiking. Canoeists gladly paddle 100 miles to avoid walking 10.

Labrador's First Railroad

The known and suspected mineral wealth of Labrador regularly tempts prospecting parties into the unpeopled interior of the Nevada-size region. One group several years ago "struck it rich" by finding vast iron deposits in the wild upper basin of the Hamilton River. Company men built a base-camp town, Burnt Creek, in the midst of their wealth on the Labrador-Quebec border. They now are building a 360-mile railroad (Labrador's first) through the lake-strewn wilderness to Seven Islands (Sept Iles), a deepwater port on the Gulf of St. Lawrence.

Until this line is finished and machinery brought in to excavate the rich ore, no Labrador iron can reach United States blast furnaces. Target date for the first shipment of ore from Seven Islands is 1955.

The company has surveyed Grand Falls, 135 miles from Burnt Creek,

UMI

and lowering sections of the floor, and for flooding the space for representations of naval combats, to give the audience varied thrills.

For over 400 years the Colosseum played a gory role. It was twice struck by lightning and injured in earthquakes. Each time it was restored and the slaughter went on. Not even Constantine, first Christian emperor, could end gladiatorial combats. Honorius stopped them in 404, but they were later resumed, and lasted until the 16th century.

In the Middle Ages, the old amphitheater, then called the Colosseum, was a fortress. Then, too, it was robbed of the iron clamps which held together the stones of the outer wall. In 1349 when an earthquake shook down part of the outer wall, ruin definitely set in. The Colosseum became a quarry. Tons of stone were taken from it for building palaces and churches. It might have been entirely destroyed but for Pope Benedict XIV who, in 1749, consecrated it "to the Passion of Christ."

Some steps have been taken in modern times to save the Colosseum from further ruin. Sloping wall ends which stand out prominently in pictures were erected late in the 19th century to strengthen the outer wall.

Only a little more than half of the original structure now stands, but many who have viewed it feel that the part is much more majestic than the whole. Complete, it would be only a glorified bull ring; broken, it has become the most famous ruin in the world.

NOTE: For additional information on ancient Rome, see "Ancient Rome Brought to Life," in the *National Geographic Magazine* for November, 1946; "Italy's Monuments Tell Rome's Magnificence," March, 1940; "Augustus—Emperor and Architect," October, 1938; and "Imperial Rome Reborn," March, 1937.

© DONALD McLEISH

ROME'S MODERN VIA DELL' IMPERO LEADS PAST LESSER RUINS TO THE COLOSSEUM

In round numbers, 280 feet long and 180 feet across, the Colosseum is not quite as large in area covered as the modern football stadium. In most modern athletic amphitheaters the seats rise on a relatively gentle slope, the highest seldom being over 50 feet above the field. The Colosseum's slope was steep—about 45 degrees. The outside wall towers 160 feet above the ground.

Bulletin No. 4, October 29, 1951

Autumn Color Blazes from Canada to the Ozarks

AMERICA'S October color riot of foliage is the greatest show of its kind on earth. This is no idle statement, but the considered verdict of men who know—globe-girdling writers and photographers.

Each year adds to the conviction of these roving experts that other lands cannot match America's show of brilliant colors. Nowhere on earth can they see such reds, yellows, purples, and bronzes as flame each autumn across the hillslopes and mountains, the valleys and river courses from Nova Scotia to the Ozarks, and from the Great Smokies to the Rocky Mountains.

Foliage Festivals Are Fall Events

America's autumn splendor is an inspiring invitation to take to the open road. It lures all types of people—even the city cliff dweller who may generally shun the crisp fall air, and the suburbanite whose arms ache at the mere thought of green leaves taking on color because it means that soon he must rake them from his lawn.

Planned "foliage tours" are becoming more popular every fall. Automobiles, railroad trains, and buses bring scenery enthusiasts to park (illustration, cover) or forest areas when the color show is at its height. Each year new "Flaming Foliage Festivals" appear on lists of outdoor attractions issued by state information bureaus and such organizations as the American Automobile Association.

In the northeastern states, for instance, early October brought a bumper-to-bumper crop of tourists. Old timers in northern New York probably encouraged extra travel to the Adirondacks (illustration, next page) by remarking that they couldn't remember when their region's forests had flamed more brilliantly.

Scarlets and golds arrived early in the Adirondacks, partly because so many big trees were uprooted by the bad storm of last November. Some of these fallen giants lived on, lightly rooted and undernourished. Their leaves colored early and painted the forest floor.

Tropics Provide No Seasonal Display

They show that leaf color does not depend on frost, even though frost often hastens the coloring process. Leaves lose their green when, for any of various reasons, roots slow down in supplying water and minerals to the tree or plant. Green chlorophyll then ceases to dominate, and red, orange, and yellow pigments have their first chance to show. Combinations of these and the browns of dying leaves provide autumn's gorgeous color range.

In tropical and subtropical forests around the world, climate varies little from month to month. Twelve months of the year trees show both growth and death, and no month produces a mass of color splendor.

In Great Britain the autumn foliage seems dull when compared to that of North America. Wet weather tones down the color brilliance, and there are fewer of the trees most given to changing color.

There is little of the flaming autumn foliage in northern Europe

UMI

and knows all about its power potential. But there seems little immediate possibility that the silver glory of Grand Falls will be harnessed. The giant cataract, and those of Unknown River, too, will no doubt continue booming away in the wilderness, enjoyed chiefly by the region's black flies, mosquitoes, muskrats, otter, caribou, and bear.

Though the railroad will make Grand Falls easier to reach, visiting the spectacle will still be in the nature of a small expedition.

NOTE: Labrador is shown on the Society's map of Canada, Alaska & Greenland. See also, "Labrador Canoe Adventure," in the *National Geographic Magazine* for July, 1951; "Milestones in My Arctic Journeys," October, 1949; "Newfoundland, Canada's New Province," June, 1949; and, in the GEOGRAPHIC SCHOOL BULLETINS, October 16, 1950, "Labrador Wilderness No Place for a Stroll."

EWING GALLOWAY

A BREATH-TAKING SPECTACLE WASTING IN THE WILDERNESS, LOWER RIGHT UNKNOWN FALLS PLUMMETS 100 FEET. PLANES RARELY CIRCLE IT; MUCH RARER ARE SURFACE VISITS

Bulletin No. 5, October 29, 1951

Postage Stamps Mark Pitcairn's Progress

TINY PITCAIRN ISLAND, renowned as the hide-out of *H.M.S. Bounty's* mutineers, is again attracting attention with the release of two new stamps—one depicting the *Bounty* Bible and the other the islanders' new prefabricated schoolhouse.

The stamps mark two important steps in educational progress on Britain's remote 1,200-acre South Sea island. The Bible was left aboard the *Bounty* by the despotic Captain William Bligh when, with 18 others, he was cast off his ship near Tahiti in 1789. Salvaged by the nine mutineers who settled on Pitcairn, it served for years as the only textbook for the isolated descendants of the *Bounty* desperadoes.

Midway Between Panama and New Zealand

Pitcairn school, opened in 1949, brought formal education to the island for the first time.

A mere dot on the Pacific near the Tropic of Capricorn, midway in the 6,500-mile stretch between Panama and New Zealand, Pitcairn was an ideal refuge for the *Bounty's* mutineers. It was uninhabited. The only neighbors, Oeno, Henderson, and Ducie islands, lie from 90 to 350 miles away and are still uninhabited. This group, with Easter, the "mystery" island, offers practically the only solid earth that breaks the appalling emptiness of the 3,500-mile expanse of ocean between French Oceania and the west coast of South America.

In this isolated spot settled the mutineers with six men and 12 women from Tahiti. They burned the *Bounty*. Though the Royal Navy searched far and wide, no trace was found of the lawbreakers for 19 years. In 1808 an American vessel sighted the island. Investigating ashore, the crew found a peaceful colony ruled by elderly John Adams, the only surviving mutineer. All others had been killed in ambushes, some by the Tahitian men.

An English vessel visited the island in 1815 but no action was taken against John Adams.

Five Bells Means a Ship Offshore

Money is and was unimportant on this "outpost of Paradise." The mutineers had the leaves of breadfruit and paper mulberry trees from which their Polynesian wives made tapa cloth for the comfortable, yet modest, "wrap-around" costumes. Fish, taros, sweet potatoes, pumpkins, sugar cane, bananas, coconuts, oranges, and melons were and still are among the main sources of food. Cooking was clambake style in underground ovens. The candlenut made a cheerfully crackling night light.

Five strokes of the bronze community bell today signal the most important event in the life of the islanders—a ship offshore and the opportunity for barter. Landing is difficult because of the high shore cliffs (illustration, inside cover). Exotic passion fruit, rose apples, snow fruit and rock melons, and curios including woven hats, baskets, and fans made from pandanus leaves, are taken out to visiting ships by islanders who are accustomed to navigating the rough waters in fishing

UMI

and Asia, and in the very limited land areas that lie in the Southern Hemisphere's temperate zone. The climate is too damp or too dry, temperatures are too hot or too cold, or evergreens are too predominant. Only the United States and neighboring Canada have real Indian summer.

In these two northern North American lands, bright days and chilly nights alternate in just the right proportion to stage a color riot of autumn foliage—the greatest show of its kind on earth.

NOTE: Regions where autumn foliage is most vivid may be located on the Society's maps of The United States; and Canada, Alaska & Greenland.

See also, in the *National Geographic Magazine* for August, 1949, "Skyline Trail from Maine to Georgia"; and "Adirondack Idyls" (10 color photographs), June, 1938, and, in the GEOGRAPHIC SCHOOL BULLETINS, October 17, 1949, "America Leads World in Fall-Color Display."

HOWELL WALKER

AN ADIRONDACK RIVER REFLECTS THE FLAMING FOLIAGE OF ITS BORDERING TREES

On Bog River, near Tupper Lake, a canoeist pauses, spellbound at the glory of the blazing autumn foliage of the deciduous trees. This spectacular display draws so many tourists that autumn rivals summer as a vacation time in this mountain region of northern New York.

IS YOUR CLASSROOM WELL SUPPLIED WITH MAPS—

the modern, visual medium for interpreting history and keeping abreast of the times? The Society's 10-color wall maps cost only 50¢ in the United States. Send for price list.

canoes and surf boats. The products are exchanged for luxury items.

Twice all Pitcairners were removed from the island, but homesickness drew them back. In 1831, during a serious dry spell, the colony went to Tahiti for a while. Twenty-five years later the islanders had so increased in numbers that Great Britain feared overpopulation and moved the entire colony to Norfolk Island, near Australia. Many families soon returned. A 1949 count gave a population of 132.

Songs of the Pitcairn Islanders are largely hymns. "There's a Land That Is Fairer than Day" is a favorite with visiting ship passengers.

The law-abiding descendants of the *Bounty's* mutineers have no reason today to keep their island a secret from the world. It is growing as a tourist attraction.

NOTE: Pitcairn Island may be located on the Society's map of the Pacific Ocean, on which it appears in a large-scale inset.

For further information, see "The *Yankee's* Wander-world," in the *National Geographic Magazine*, January, 1949; and "Westward Bound In the *Yankee*," January, 1942.

ROLLO H. BECK

A THATCH-ROOF COTTAGE ON PITCAIRN ISLAND FRONTS ONE OF THE ROADLESS ISLE'S PATHWAYS

Most of two-square-mile Pitcairn is a fertile plateau, where the islanders tend gardens and small farms to grow all the fruit and vegetables they need, plus enough for bartering with the passengers of passing ships. Coconut palms, the "giraffe of vegetables," shelter the home.

The following order form may be used (or copied) for requesting the BULLETINS; School Service Division, National Geographic Society, Washington 6, D. C.

Kindly enter ..... Subscriptions to the Geographic School Bulletins, published weekly (30 issues) during the school year. (Subscriptions entered at any date extend to that date the succeeding year.)

Address for sending BULLETINS .....

City ..... State .....

I enclose, for each subscription, 40 cents (in United States or its possessions; in Canada, 60 cents in U. S. Funds): Total amount .....